

REPORT ON MACHINERY.

No. 24274

WED 24 NOV 1909

Port of Sunderland

Received at London Office.

No. in Survey held at SunderlandDate, first Survey August 1908 Last Survey 20 Jan 1909

Reg. Book.

on the Steel Screw Steamer

(Number of Voids 341)

Tons { Gross 890
Net 536

Master

Built at Sunderland By whom built Thorn Bros (No 347)When built 1909

Engines made at

Sunderland By whom made E. Clark & Cowhen made 1909

Boilers made at

do

By whom made

do

when made

do

Registered Horse Power

Owners Shipping Investments Ltd

Port belonging to

Nom. Horse Power as per Section 28 143Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted no

ENGINES, &c.—Description of Engines

Vertical TripleNo. of Cylinders ThreeNo. of Cranks ThreeDia. of Cylinders 17' 28" 46 Length of Stroke 30" Revs. per minute 65Dia. of Screw shaft as per rule 9.35 Material of screw shaft as fitted 9.5Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes

Is the after end of the liner made water tight

in the propeller boss yes If the liner is in more than one length are the joints burned yes

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes

If two

liners are fitted, is the shaft lapped or protected between the liners yesLength of stern bush 38"Dia. of Tunnel shaft as per rule 8.39 Dia. of Crank shaft journals as per rule 8.81Dia. of Crank pin 9" Size of Crank webs 48" x 6" Dia. of thrust shaft undercollars 10" Dia. of screw 11' 3" Pitch of Screw 13' 6"No. of Blades 4 State whether moveable no Total surface 43.2 sq ftNo. of Feed pumps Two Diameter of ditto 2 1/2" Stroke 16"Can one be overhauled while the other is at work yesNo. of Bilge pumps Two Diameter of ditto 2 1/4" Stroke 16"Can one be overhauled while the other is at work yesNo. of Donkey Engines Two

SIZES OF PUMPS

BALLAST FEED 6 1/2" x 8" x 8"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" dia. water pumps One 2 1/2" dia. water pumpIn Holds, &c. Two 2" dia. water pumps One 2 1/2" dia. water pumpNo. of Bilge Injections 1 sizes 3 1/4" Connected to condenser, or to circulating pump yesIs a separate Donkey Suction fitted in Engine room & size yes 4" dia.Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible yesAre all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel yesAre the Blow Off Cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers noneHow are they protected yesAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesDates of examination of completion of fitting of Sea Connections 25.11.08 of Stern Tube 3.12.08 Screw shaft and Propeller 15.12.08Is the Screw Shaft Tunnel watertight yesIs it fitted with a watertight door yesworked from top platformBOILERS, &c.—(Letter for record S)Manufacturers of Steel Spencer & Sons Ltd NewburnTotal Heating Surface of Boilers 2421.5 sq ft Is Forced Draft fitted no No. and Description of Boilers Two single and multitubularWorking Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 13.11.08 No. of Certificates 2734Can each boiler be worked separately yesArea of fire grate in each boiler 7.85 sq ft

No. and Description of Safety Valves to

each boiler Two direct spring Area of each valve 5.44 sq inPressure to which they are adjusted 180 lbAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 9"Mean dia. of boilers 11' 3 1/2" Length 10' 6" Material of shell plates SteelThickness 1 1/4" Range of tensile strength 28 1/2 to 32Are the shell plates welded or flanged noDescrip. of riveting: cir. seams DR Laplong. seams DR Lap Diameter of rivet holes in long. seams 1 1/6"Pitch of rivets 5 1/2"Lap of plates or width of butt straps 15 1/4"

Per centages of strength of longitudinal joint

rivets 94Working pressure of shell by rules 200Size of manhole in shell End 16 x 13Size of compensating ring End dishedNo. and Description of Furnaces in each boiler Two plainMaterial Steel Outside diameter 47"

Length of plain part

top 17"bottom 17"Thickness of plates crown 3/4" bottom 3/4"Description of longitudinal joint weldNo. of strengthening rings —Working pressure of furnace by the rules 180.4Combustion chamber plates: Material Steel Thickness: Sides 1 1/6"Back 1 1/6"Top 1 1/6"Bottom 1 1/6"Pitch of stays to ditto: Sides 9 1/2" x 8" Back 9 1/2" x 9" Top 9 1/2" x 9"If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 190Material of stays Steel Diameter at smallest part 1 1/2"Area supported by each stay 85 sq inWorking pressure by rules 213End plates in steam space: —Material Steel Thickness 1 1/8"Pitch of stays 17 x 18How are stays secured D. nutsWorking pressure by rules 185Material of stays SteelDiameter at smallest part 2 1/8"Area supported by each stay 306 sq inWorking pressure by rules 206Material of Front plates at bottom SteelThickness 1 1/8"Material of Lower back plate SteelThickness 1 1/8"Greatest pitch of stays 14 1/2"Working pressure of plate by rules 181Diameter of tubes 3 1/4"Pitch of tubes 4 1/2" x 4 1/2"Material of tube plates SteelThickness: Front 1 1/8"Back 1 1/8"Pitch across wide water spaces 14 1/4"Working pressures by rules 280 lbGirders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 7 1/2" x 1 1/4"Length as per rule 30 1/2"Distance apart 9"Number and pitch of stays in each Two 9 1/2"Working pressure by rules 182Superheater or Steam chest; how connected to boiler yes

Can the superheater be shut off and the boiler worked

separately —Diameter —Length —Thickness of shell plates —

Material

Description of longitudinal joint —

Diam. of rivet

holes —Pitch of rivets —Working pressure of shell by rules —

Diameter of flue

Material of flue plates —Thickness —If stiffened with rings —Distance between rings —Working pressure by rules —End plates: Thickness —How stayed —Working pressure of end plates —Area of safety valves to superheater —Are they fitted with easing gear —

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description *no donkey boiler fitted*
 Made at By whom made When made Where fixed
 Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety
 Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment
 If fitted with easing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length
 Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams
 Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint Rivets
 Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays
 Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint
 Working pressure of furnace by rules Thickness of furnace crown plates Stayed by
 Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied: *Propeller, 2 pack bolts & nuts for & 4 bolts Red & main bearings, set of coupling bolts & nuts, valves for all pumps, HP. pump ring & piston rings, bolts, nuts & iron assorted & sundries.*

The foregoing is a correct description,

Manufacturers

FOR GEORGE CLARK LIMITED.

James C. Clark

Dates of Survey while building During progress of work in shops - 1908. Aug. 4, 14, 21, 28, Sept. 3, 22, 25, 30, Oct. 2, 5, 9, 13, 15, 22, 25, 28, Nov. 2, 4, 9, 13, 20, 25, Dec. 3, 7, 10
 During erection on board vessel - 14, 15, 18, 23, 24, 1909 Jan. 4, 8, 20
 Total No. of visits 34

Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " "

Dates of Examination of principal parts—Cylinders 22.10.08. Slides 4.11.08. Covers 1.12.08. Pistons 2.11.08. Rods 1.12.08.
 Connecting rods 22.10.08. Crank shaft 2.11.08. Thrust shaft 1.12.08. Tunnel shafts 2.11.08. Screw shaft 7.12.08. Propeller 3.12.08.
 Stern tube 1.12.08. Steam pipes tested 23.12.08. Engine and boiler seatings 25.11.08. Engines holding down bolts 24.12.08.
 Completion of pumping arrangements 24.12.08. Boilers fixed 18.12.08. Engines tried under steam 8.1.09
 Main boiler safety valves adjusted 8.1.09. Thickness of adjusting washers *P 1/2 S 1/4 P 1/2 S 1/2*
 Material of Crank shaft *875.6 376c* Identification Mark on Do. *4020 KH.* Material of Thrust shaft *875.6 376c* Identification Mark on Do. *4020 KH.*
 Material of Tunnel shafts *4021.2 2767* Identification Marks on Do. *4021.2 2767* Material of Screw shafts *do* Identification Marks on Do. *917 376c*
 Material of Steam Pipes *20 lb weight 3/8" dia 6W.S. Standard Copper* Test pressure *40 lb. sq.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey, the material & workmanship found good & efficient, fitted & tested in accordance with the rules & eligible in my opinion for classification with record of + LMC 1.09.

It is submitted that this vessel is eligible for THE BOARD.

+ LMC 1.09

J.R.R. & Co.

25.11.09 25.11.09.

The amount of Entry Fee. £ 2 : 0 :
 Special .. £ 21 : 9 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *Nov 16. 09*
 When received, *Nov 23. 09*

E. J. Stoddart

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 FRI. 2 SEP 1910

Committee's Minute

Assigned

26 NOV 1909

+ Lmc. 1.09

MACHINERY CERTIFICATE



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Lloyd's Register Foundation

Certificate (if required) to be sent to the Committee's Minute.